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United States Department of Agriculture (USDA)
International Operational Agriculture Monitoring Program

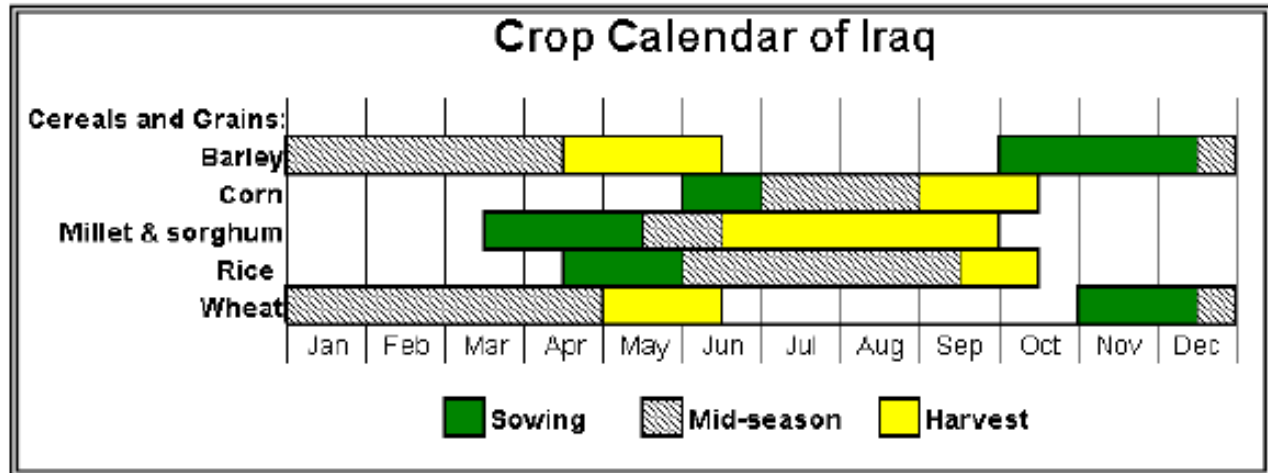


January Report – Week 1

January 9th, 2008

1. Current analysis of seasonal agro-meteorological data and remotely sensed land cover imagery supports an improved winter grains season in the Northern governorates when compared to the previous year; Ninawa is an exception with current production outlooks remaining similar to the previous year. Quantitative analysis of crop area and yield statistics will be provided as the season progresses.
2. Seasonal cumulative precipitation in the Northern rainfed governorates for MY 2009/10 is either normal or slightly below normal. Governorates experiencing above normal rainfall are Dahuk, Arbil, As Sulaymaniyah, Salah ad Din and At Ta'min; these provinces combined can contribute to 20% of total wheat and 30% of total barley production. The governorate of Ninawa is solely capable of production similar to the aforementioned provinces, but has received the least rainfall. Overall precipitation in the Northern governorates is significantly better than the previous year (Figure 1). Current decadal precipitation from December 20th and December 31st showed slight rainfall accumulation in the north, but precipitation remained below normal with ranges from 5% to 50% of normal (Figure 2).
3. The effect of above normal seasonal precipitation in the Northern rainfed governorates is evidenced by a significantly higher Normalized Difference Vegetation Index (NDVI) than the previous year (Figures 3 & 4).
4. High resolution NDVI comparisons also showed higher rates of "greenup" in portions of Arbil and As Sulaymaniyah (Figure 5). Although some of the "greenup" can be contributed to natural vegetation signatures, cropland areas were also exhibiting early signs of emergence. In the case of As Sulaymaniyah, imagery revealed "greenup" a month earlier than the previous year (Figure 6).
5. Cropland NDVI values for the Northern governorates were plotted against the previous year and the 9-year average. Most provinces showed a steeper rate of "greenup" than the previous year and approached near average values, with the only exception being Ninawa. The governorates of Salah ad Din and As Sulaymaniyah exhibited above average NDVI values (Figures 7-12).

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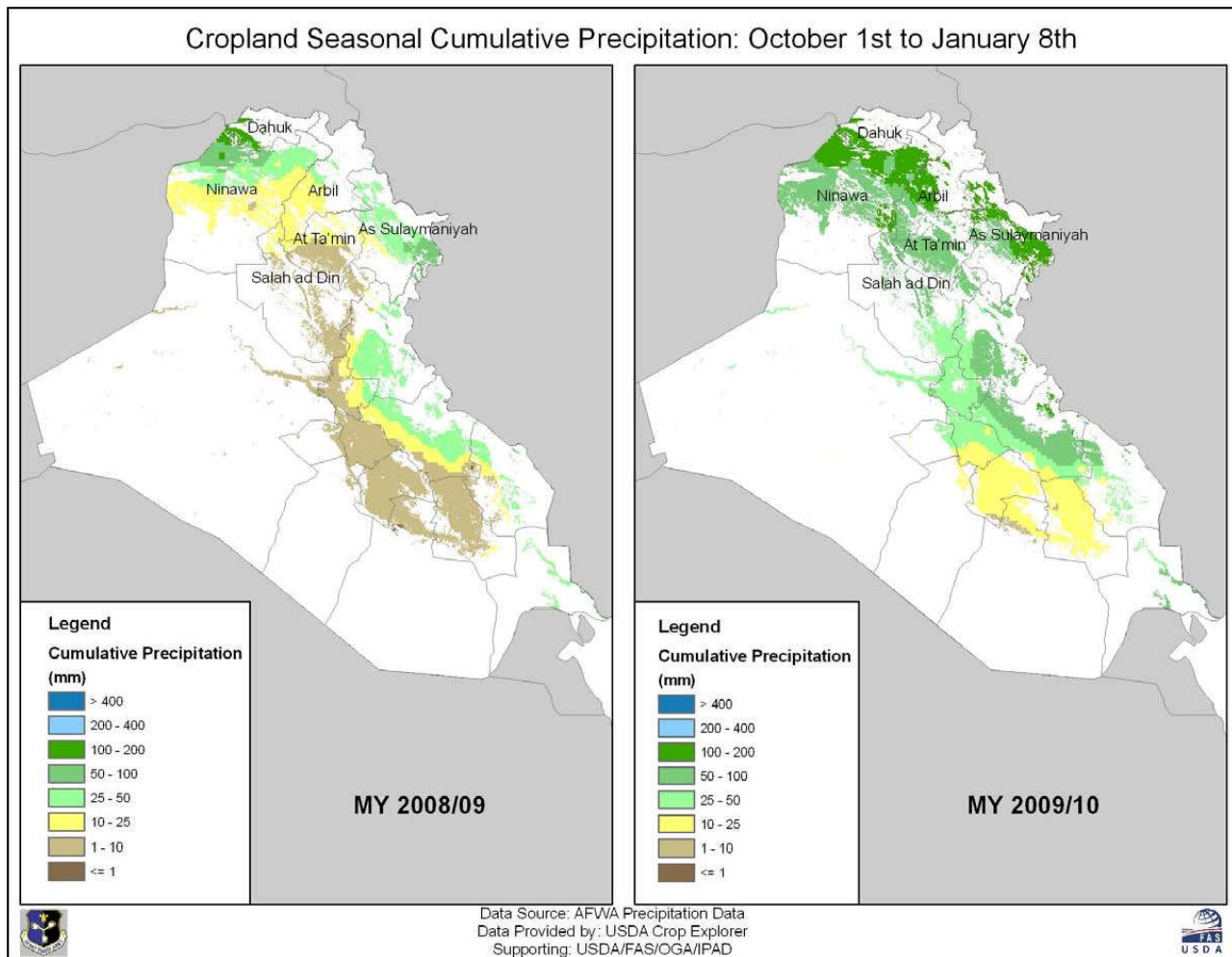


Figure 1: Seasonal cumulative precipitation compared to the previous year: Data are isolated to cropland areas.

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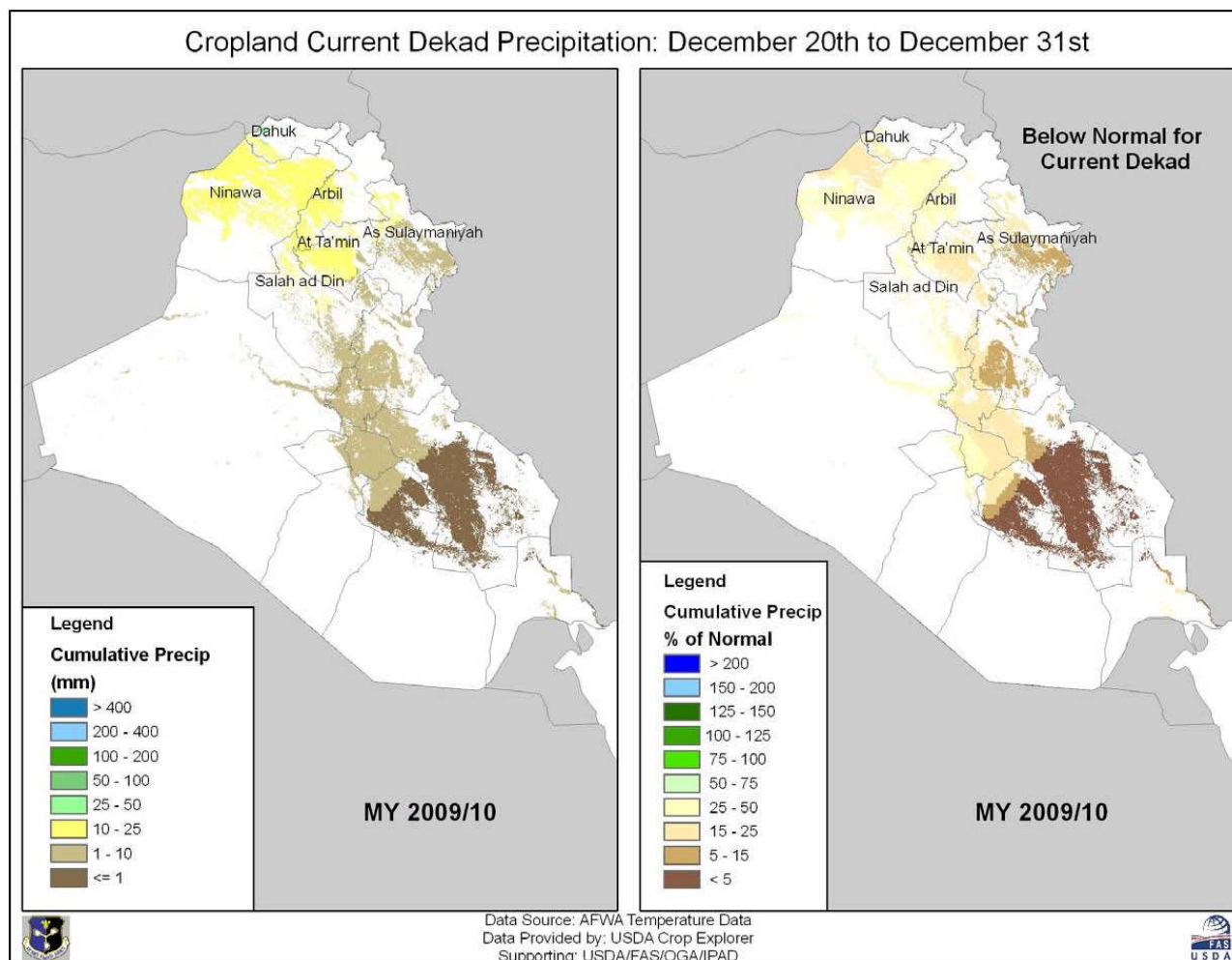


Figure 2: Current decadal precipitation illustrating below normal precipitation during the last recorded dekad.

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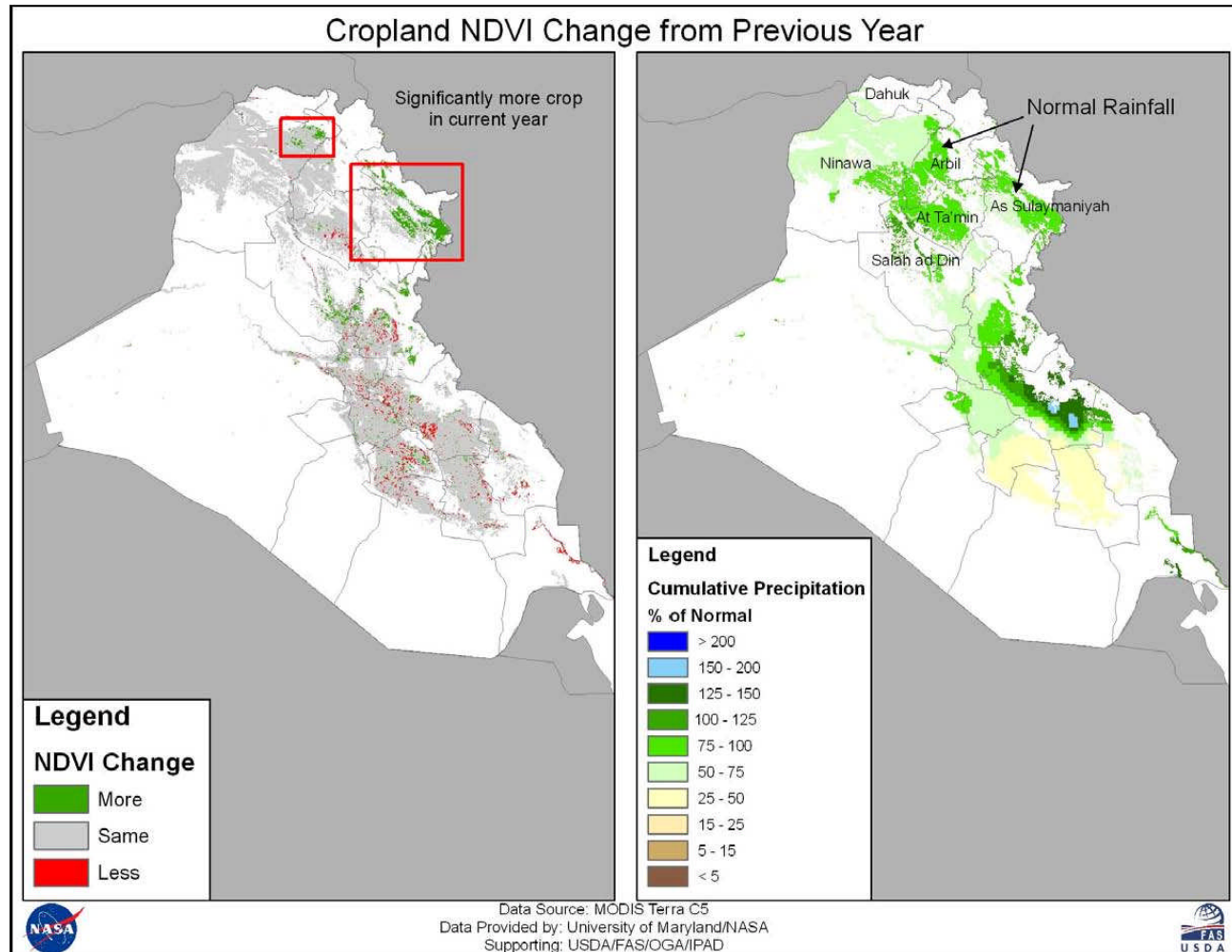


Figure 3: NDVI change detection analysis showing significantly more vegetation abundance than the previous year.

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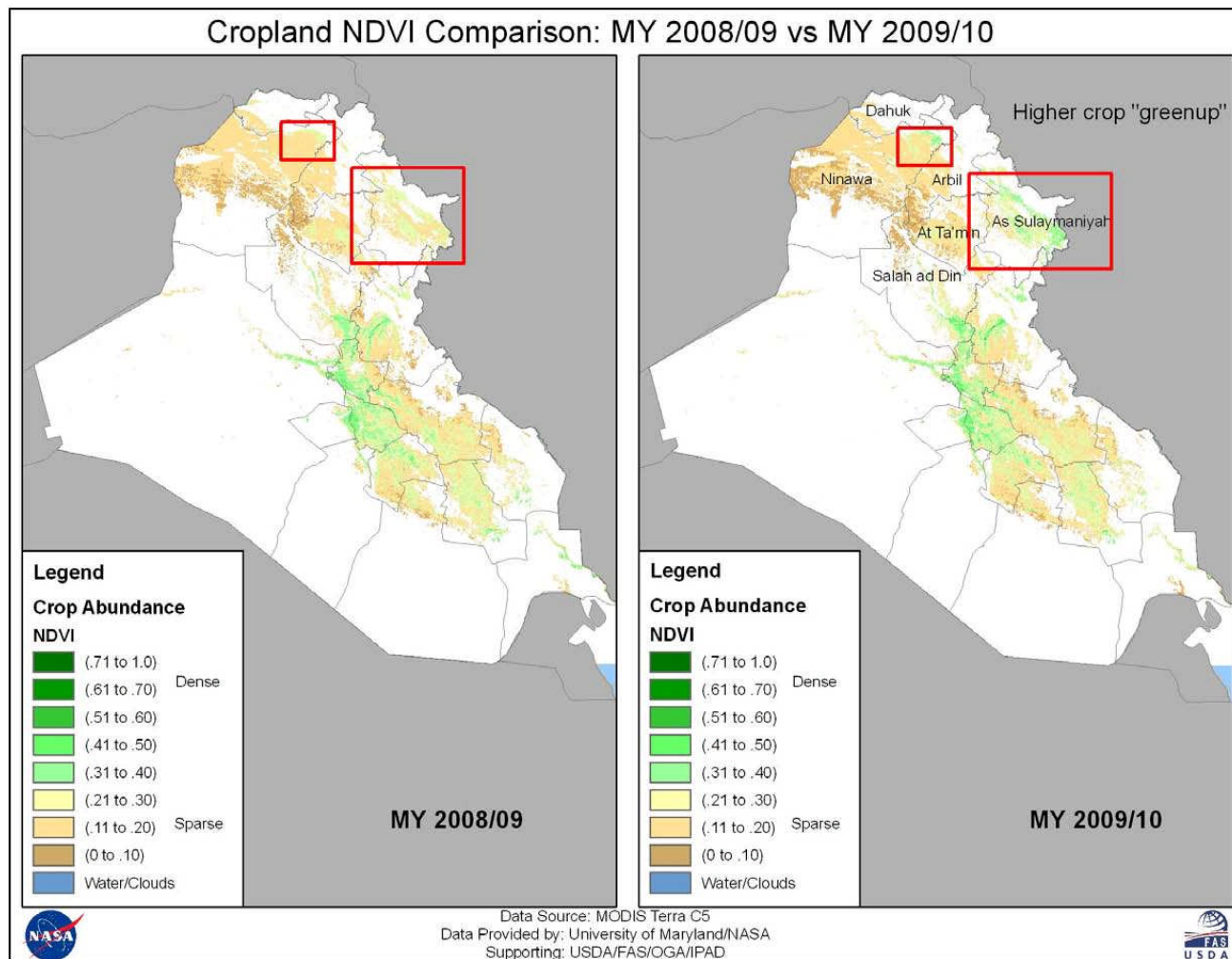


Figure 4: Cropland NDVI comparison showing earlier crop “green-up” than previous year.

High Resolution NDVI Comparison: Arbil (AOI #9)

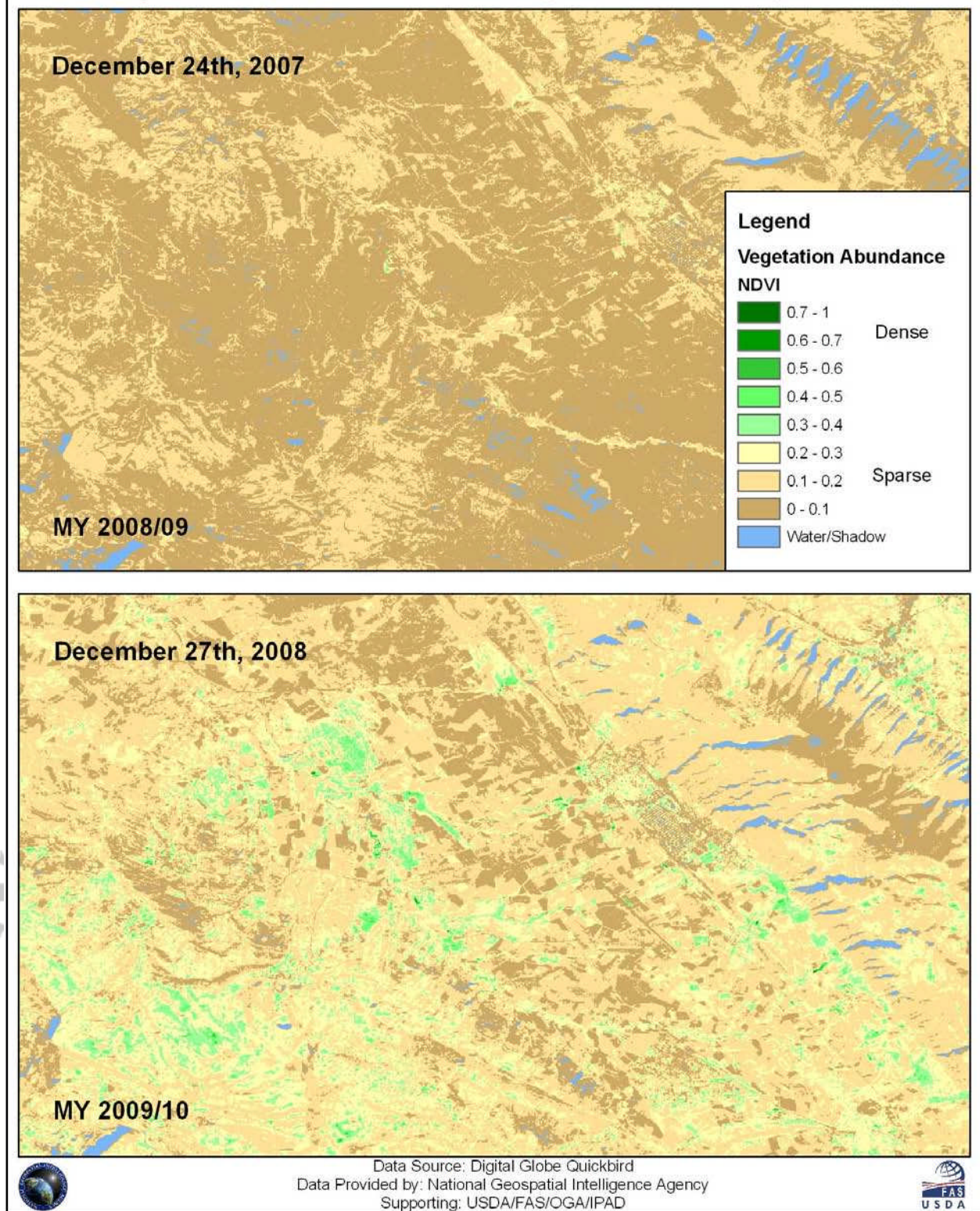


Figure 5: Higher vegetation abundance than previous year: Arbil.

High Resolution NDVI Comparison: As Sulaymaniyah (AOI 11)

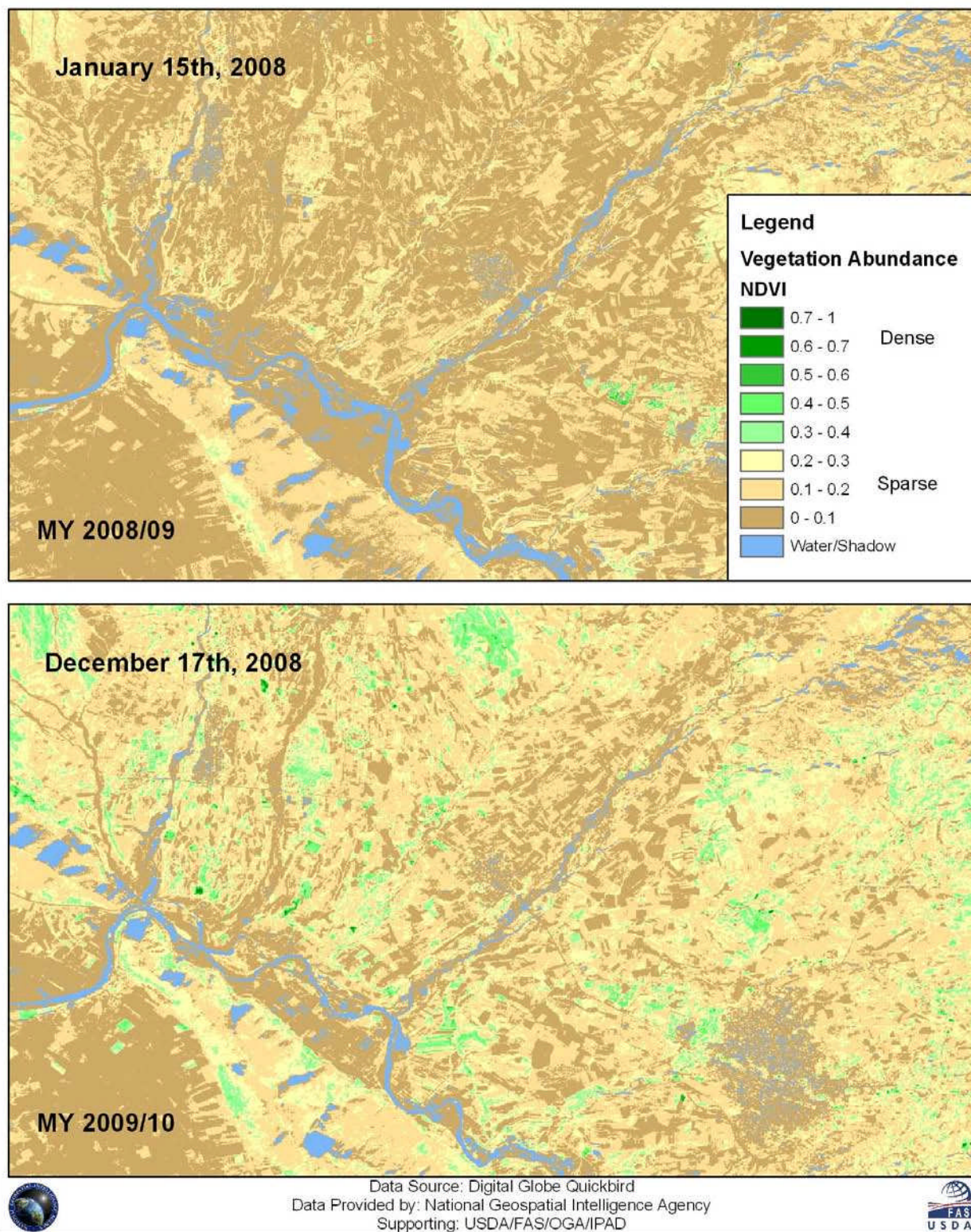


Figure 6: High resolution NDVI comparison showing “green-up” a month earlier than previous year: Sulaymaniyah.

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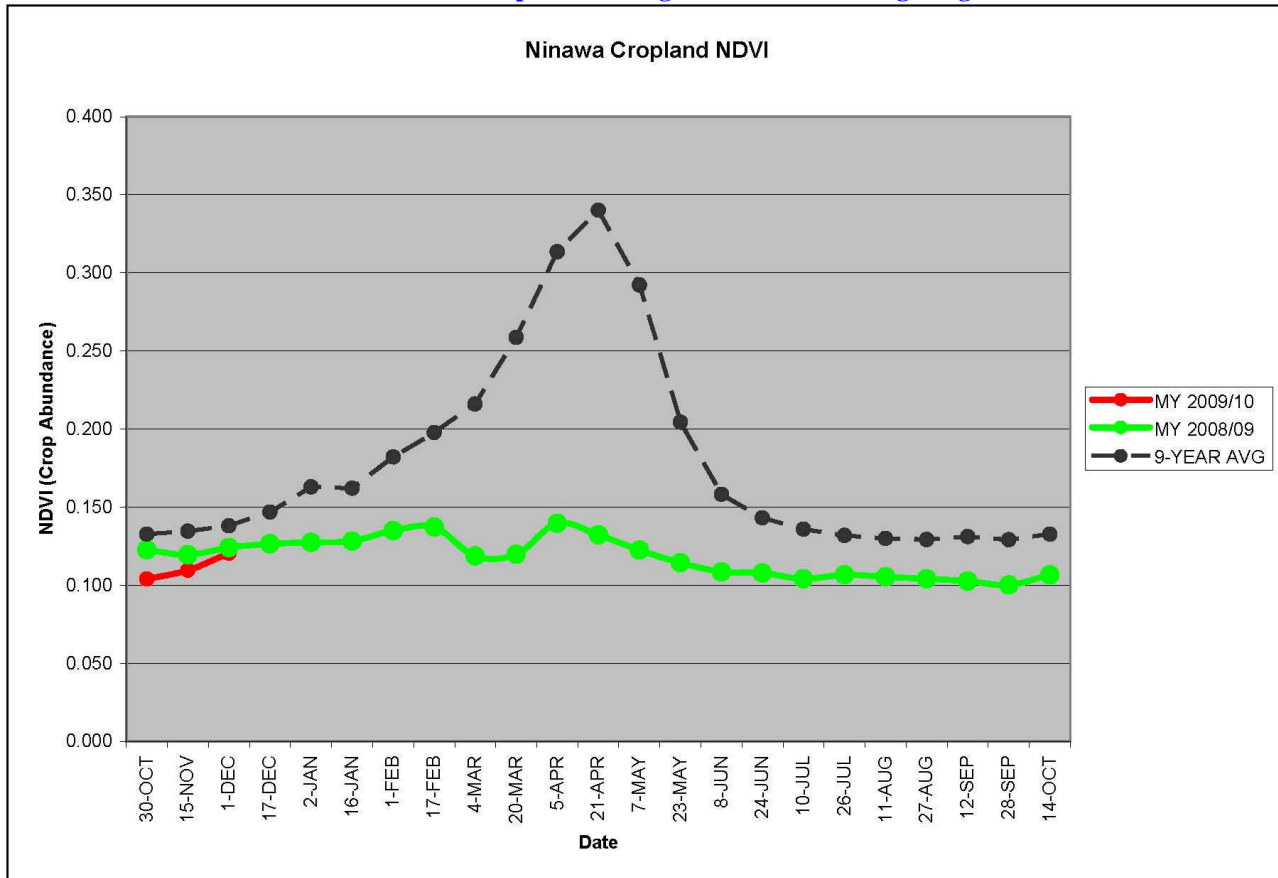


Figure 7: Cropland NDVI graph for Ninawa.

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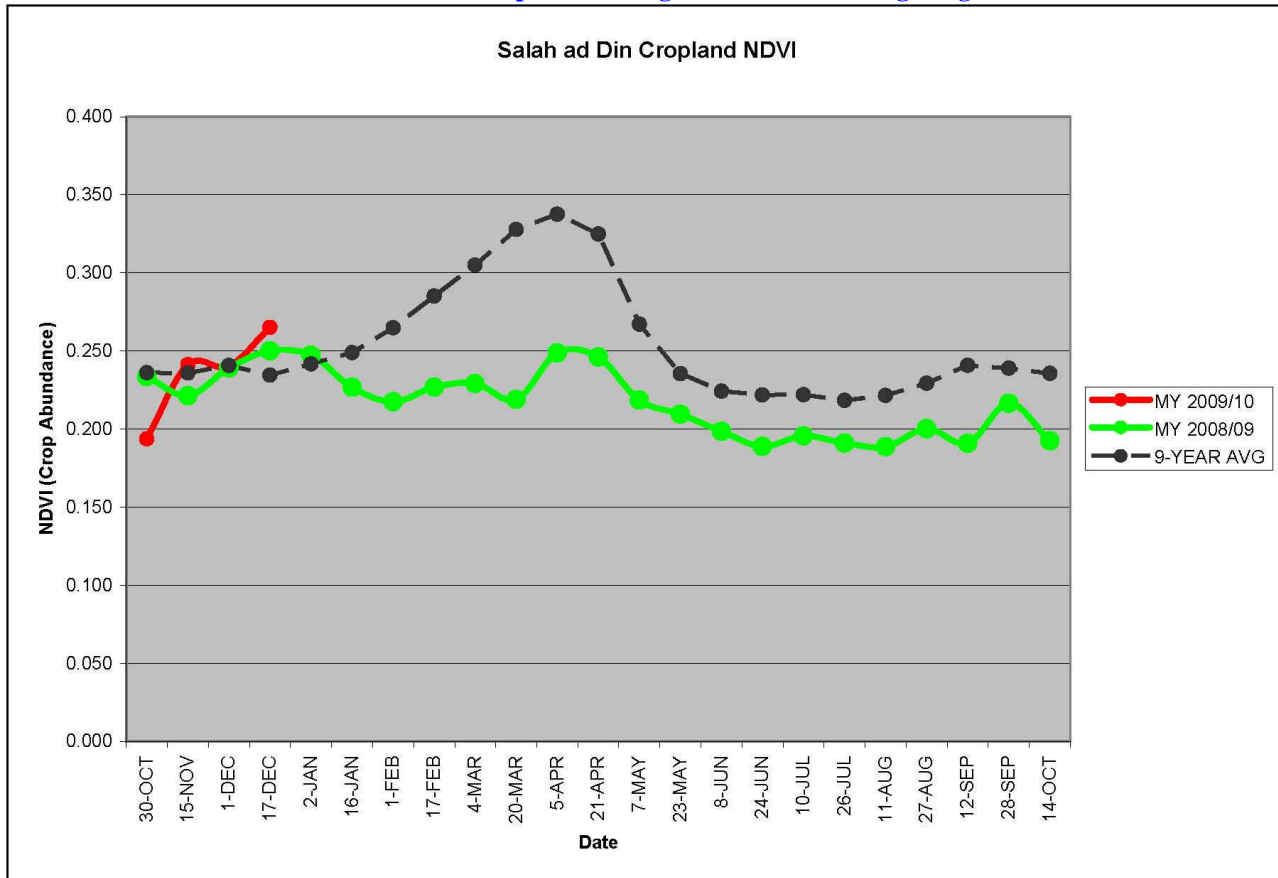


Figure 8: Cropland NDVI graph for Salah ad Din.

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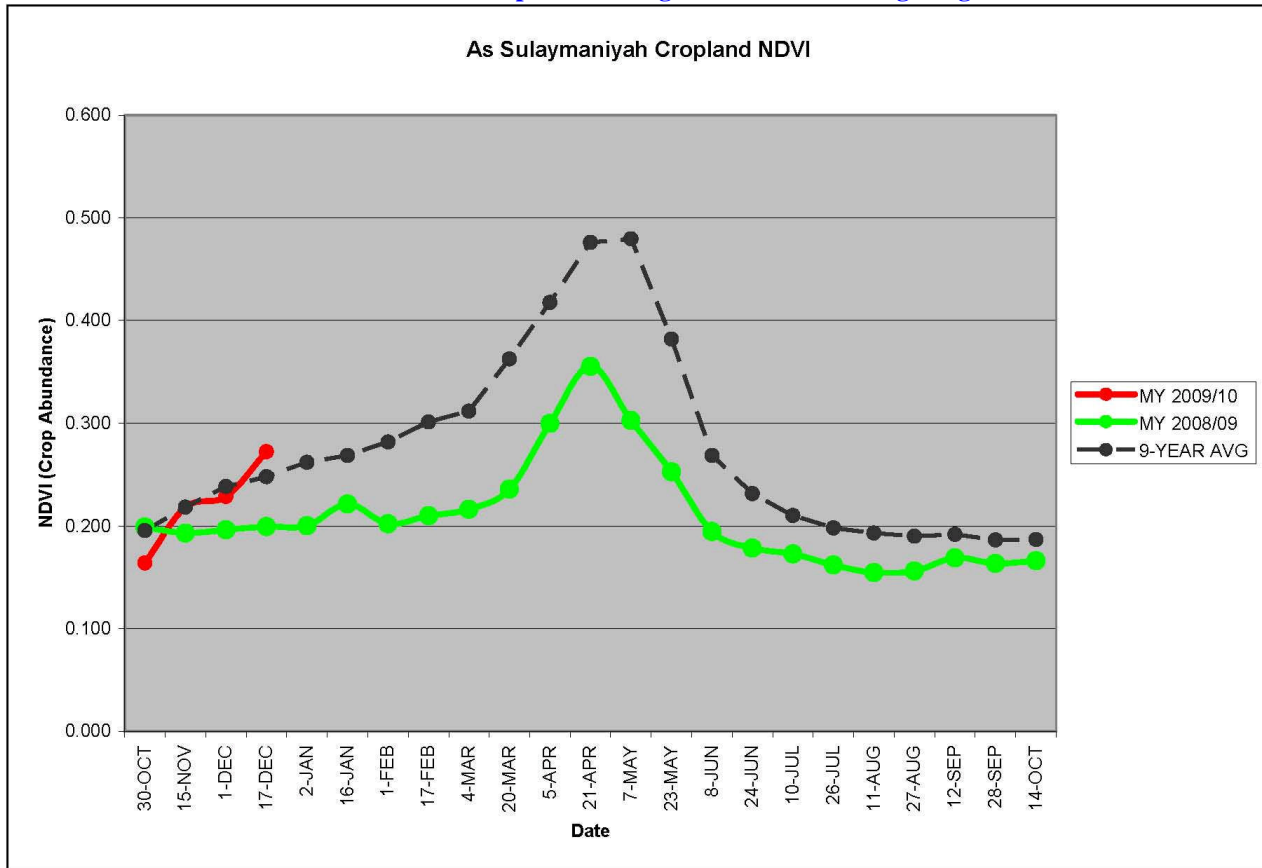


Figure 9: Cropland NDVI graph for As Sulaymaniyah.

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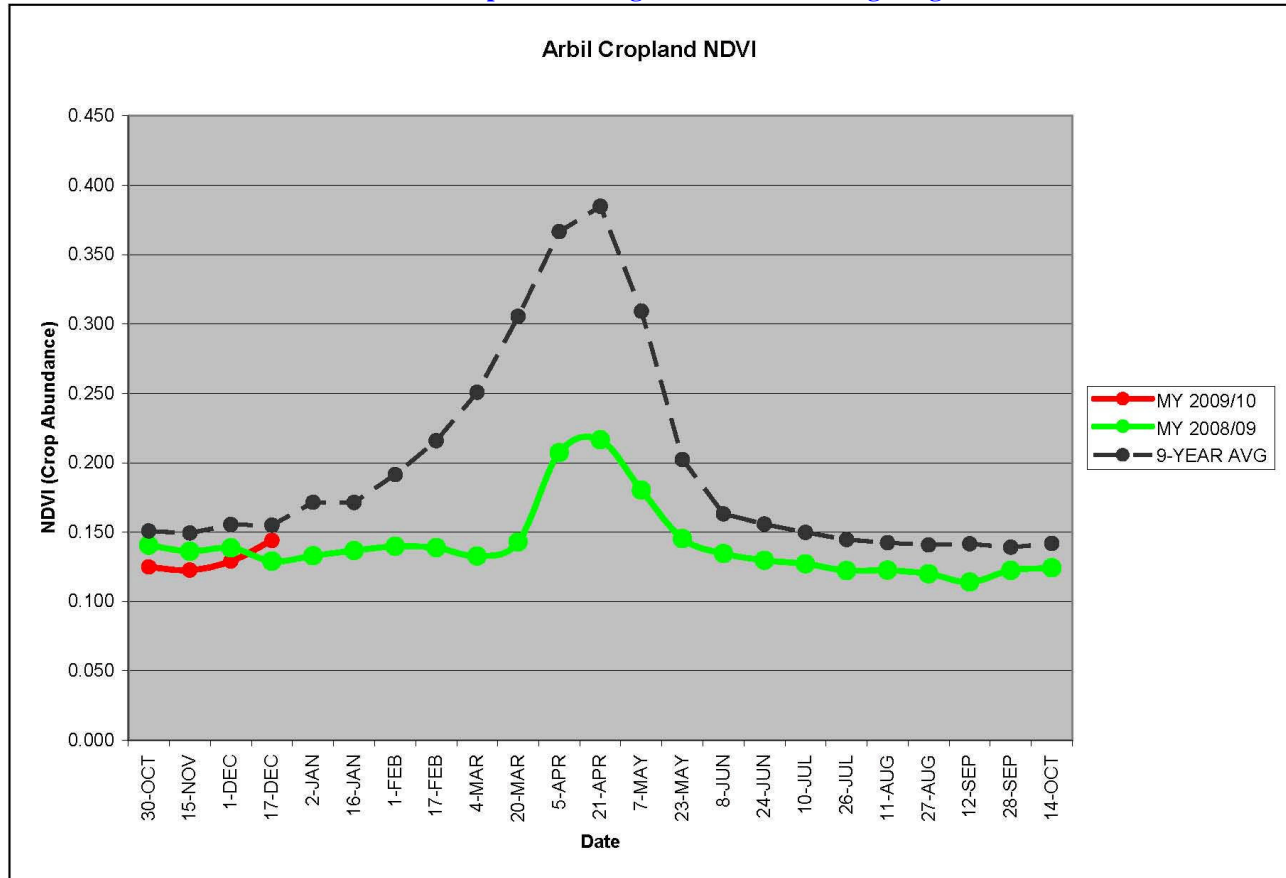


Figure 10: Cropland NDVI graph for Arbil.

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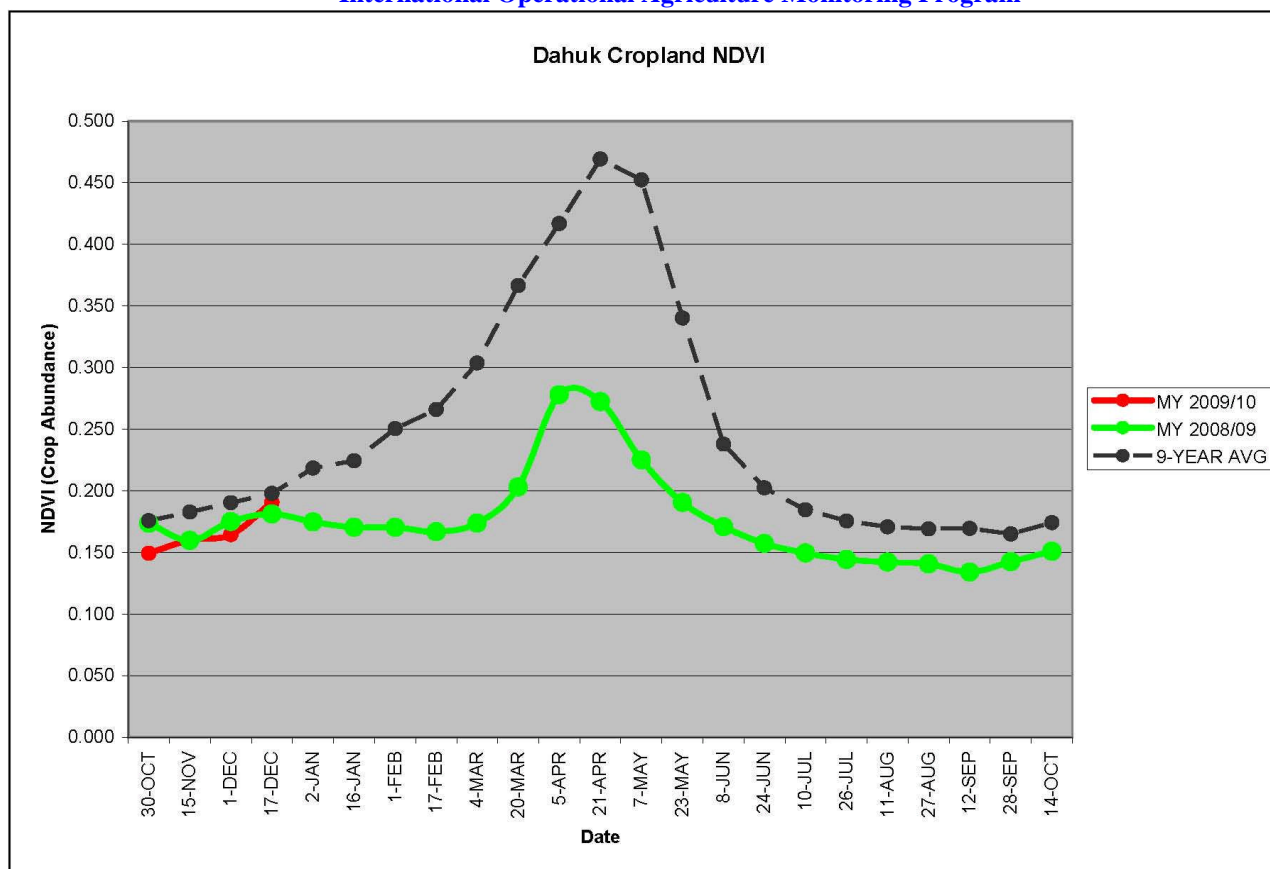


Figure 11: Cropland NDVI graph for Dahuk.

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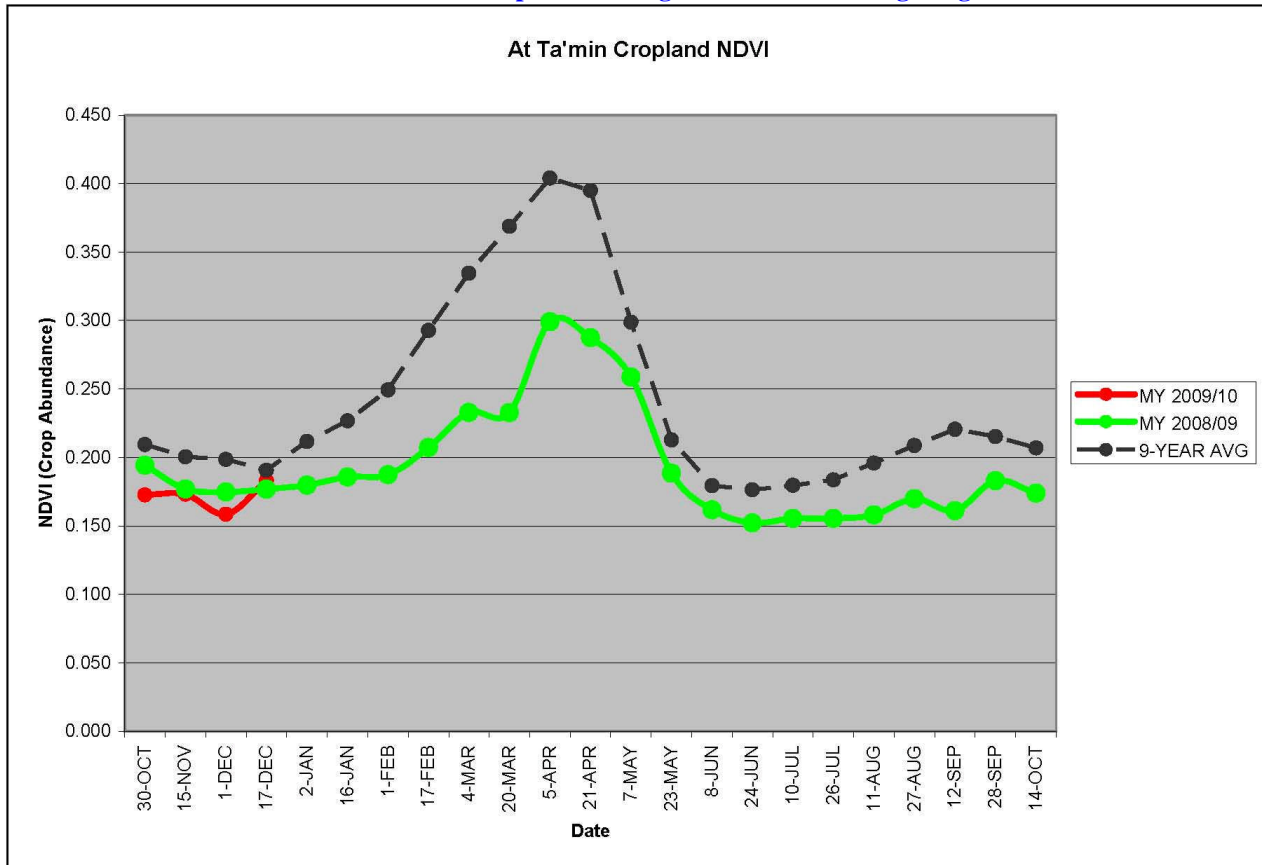


Figure 12: Cropland NDVI graph for At Ta'min.

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